UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,476	06/14/2000	RAYMOND O'BRIEN	P65632USO	1344

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EXAMINER
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ART UNIT	PAPER NUMBER
2667	10

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/581,476	O'BRIEN ET AL.
	Examiner	**Art Unit**
	Anh-Vu H Ly	2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 March 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,3-15 and 17-19</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,3-15 and 17-19</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This communication is in response to applicant's amendment filed March 29, 2004. The

proposed amendment to the claims has been entered. Claims 1, 3-15, and 17-19 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United
> States before the invention thereof by the applicant for patent, or on an international application by another who
> has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention
> thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

2.   Claims 1, 3-15, and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by

Frey et al (US Patent No. 5,982,783). Hereinafter, referred to as Frey.

With respect to claims 1 and 17, Frey discloses in Fig. 4 that the PNC comprising a TSI

205 (TDM bus) and TDM 204 (a system TDM interface) for voice transmissions over the ATM

network 100 (Fig. 1). Herein, the TDM 204 transmits TDM signals on the TSI 205 bus and

receives TDM signals from the TSI 205 bus (a system TDM interface coupled to TDM bus, that

transmits TDM signals on the TDM bus and receives TDM signals from the TDM bus). Further,

Frey discloses in Fig. 4 that, the ATM cells are received at the physical 210 (a system packet

communication interface). Furthermore, as shown in Fig. 4, once the ATM cells received at the

physical 210, cells are moved to the AAL layers for transforming into TDM signals. Herein, the

movement of the ATM cells between the physical 210 and the AAL layers is on a packet bus

(bus is needed for forwarding ATM cells), it should be understood that the format of the received

ATM cells is still packetized voice, therefore, it is a packet bus (a system packet communication

interface coupled to the packet bus, that places packet communication cells on the packet bus and

receives packet communication cells from the packet bus). As shown in Fig. 4, the PNC

comprising the ATM protocol stacks 252 (a conversion unit), located between the physical 210

interface (packet interface) and the TDM 204 interface (TDM interface), for converting TDM

signals to ATM cells for transmitting over the ATM network and vice versa (a conversion unit

connected between the TDM bus and the packet bus that performs bi-directional TDM-packet

format conversion between the system TDM interface and the system packet communication

interface).

With respect to claim 2, Frey discloses in Fig. 4, that the ATM protocol stacks

comprising different ATM adaptation layers such as layer 1, layer 2, and layer 5 (wherein the

conversion unit comprising at least one service specific adaptation module).

With respect to claim 4, Frey discloses in Fig. 5, the PNC comprising processor 303 for

controlling the operations of circuits in the PNC (system comprising a system controller that

controls operation of circuits in the system).

With respect to claims 5 and 18, Frey discloses in Fig. 5, processor 303 connected to the

network receive processor 305 via packet bus (system controller is connected to the packet bus).

With respect to claim 6, Frey discloses in Fig. 5, processor 303 connected to network

receiver processor 305 via packet bus and TDM 300 via TDM bus for sending and receiving

control signals (system controller transmits and receives system signals via the packet bus to the

packet communication interface and transmits and receives system control signals to the system

TDM interface via separate TDM control signal link).

With respect to claim 7, Frey discloses in Fig. 5 that ATM cells are received at network

processor 305 and controlled by the processor 303 therefore control signals are in ATM cells

(wherein control signals are cells such as ATM cells).

With respect to claims 8 and 19, Frey discloses (col. 5, lines 18-25) that the ATM layer

211 processes a stream of ATM cells. The layer is responsible for cell multiplexing and

demultiplexing based on VPI/VCI, cell virtual path identifier/virtual channel identifier pair

translation to the proper VPI/VCI pair for the output link, cell header generation/extraction and

interpretation (the control signals are cells such as ATM cells and the system packet

communication interface and the conversion unit add an additional header to each cell to direct

routing of the cells within the system), and generic flow control for media access on the user

network interface side of the network.

With respect to claims 9 and 11, Frey discloses in Fig. 4 that the PNC comprising a

number of ATM adaptation layers, each is responsible for segmentation/reassembly and

convergence. Therefore, each layer has a processor attached to the layer for carrying the

operation of segmentation/reassembly and convergence functions (wherein each adaptation

module comprising a cell processor connected to an adaptation circuit).

With respect to claim 10, Frey discloses in Fig. 5, that the control signals received by the

network processor 305 (a control processor) from the processor 303. Herein, the cell processor

of the adaptation layers, at the interface of the processor 305 and processor 303, received the

control signals and routed to the processor 305 (wherein each adaptation module further

comprising a control processor, and the cell processor routes the control signal cells to the

control processor).

With respect to claim 12, Frey discloses (col. 9, lines 27-32) that ATM traffic cells are

received from ATM network 100. PNC circuit processes of ATM cells up to ATM protocol

stack 252 to strip them of ATM headers and to reassemble them into a traffic stream at the same

adaptation layer 212-214 (wherein cell processor strips additional headers from cells are they are

routed to the segmentation and reassembly circuit).

With respect to claim 13, the limitations "wherein the cell processor maintains a plurality

of output queues for routing of cells to TDM bus, and the queues being maintained on a priority

scheme according to VPI/VCI headers" are inherent to Frey. Frey discloses in Fig. 4, that ATM

cells are converted to TDM signals for transmission over the TDM bus therefore, buffers are

needed at the adaptation layers for storing ATM cells for transmission over the TDM bus.

Further, as shown in Fig. 4, there are a number of adaptation layers corresponding to different

characteristics of communications such as time sensitive applications and time insensitive

applications, therefore, ATM cells associated with time sensitive applications are given higher

priority than ATM cells associated with time insensitive applications.

With respect to claim 14, Frey discloses (col. 8, lines 11-15) that at the DLCI xlate layer

203, the board address, port number, and the DLCI of the packet are mapped into VCV and to a

new board address, port number, and DLCI, by using the contents of a translation table (wherein

each cell processor comprising a mapping function for addition of the additional headers).

With respect to claim 15, Frey discloses in Fig. 5, the network receive processor 305 and

network transmit processor 304 are implemented on an integrated circuit chip (wherein cell

processor comprising a dedicated ASIC).

Response to Arguments

3.   Applicant's arguments with respect to claims 1, 3-15, and 17-19 have been considered but

are moot in view of the new ground(s) of rejection.

Conclusion

4.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Anh-Vu H Ly whose telephone number is 703-306-5675. The

examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi Pham can be reached on 703-305-4378. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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